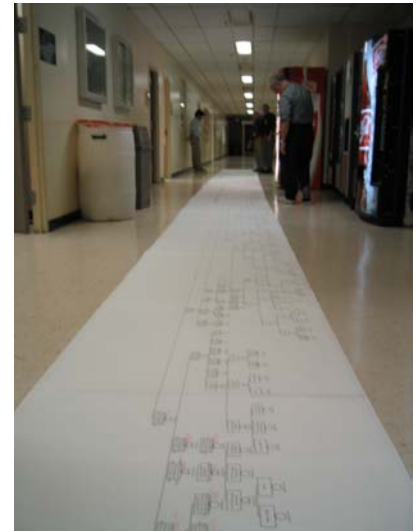


INEEL Employees Assist with Columbia shuttle accident investigation



Marty Sattison and **Ted Wood** were requested by the Johnson Space Center (JSC) to come to Houston and provide assistance with the Columbia Space Shuttle Accident Investigation (CAI). They were at JSC February 10 through 13. Jan Railsback, NASA's modeling team leader for the CAI, required assistance in developing an over-

arching master logic diagram (MLD) of the possible causes of the Columbia accident. The purpose of the MLD was to serve as the roadmap and tracking system for directing and documenting progress of the investigation. As engineers and scientists eliminate a possible cause, it would be so indicated on the MLD. **Sattison** met with the core team of managers and engineers involved in the CAI and sketched out a design for the logic diagram. He then assisted in building the detailed Master Logic Diagram using SAPHIRE, the risk assessment software suite developed by the INEEL for use by the U.S. Nuclear Regulatory Commission and



NASA. **Wood** provided SAPHIRE technical support along the way, making changes to allow SAPHIRE to print on large-scale plotters and provide additional information on the diagram specific to the CAI. Although the Revision 0 MLD concentrated only on the shuttle's wing area, the first printout was over 60-feet long. With a little modification, the working MLD was about 20 feet long and was hung on the wall in the "war room." A smaller, 8-foot version was also created and about 50 copies hang in various offices at JSC.



Sattison also established a Work Breakdown Structure for every element in the MLD. This numbering scheme provides a reference system so engineers and managers could readily identify and track the status of possible accident initiating events and causes.